

MITCHELL, Candice Melissa BASc, BASc (Hons) QUT

Thesis Title:

Morphologic and Genomic Characterisation of the Koala *Chlamydia pneumoniae* Strain

Supervisors:

Professor Peter Timms (Principal)

Professor Kenneth Beagley (Associate)

Citation:

This study has contributed vital information necessary for improving the understanding of genetic diversity and morphological variation of *Chlamydia* that is circulating in Australian wildlife, such as koalas. This project has important implications for the quality of life and control of this pathogen in the already fragile koala population.

The present study (i) provided a comprehensive description of the morphologic and genomic architecture of the *C. pneumoniae* koala strain relative to a human strain, and showed that the koala strain was microscopically, developmentally, and genetically distinct from the human strain, and; (ii) examined the genetic relationship of geographically diverse *C. pneumoniae* strains from human, marsupial, amphibian, reptilian and equine hosts, and showed two distinct lineages that have arisen from animal-to-human cross species transmissions.